

REMARKS

The last Office Action has been carefully considered.

It is noted that Claims 1, 7 and 8 are rejected under 35 USC 102(b) over the U.S. patent to Davis.

Claim 2 is rejected under 35 USC 103(a) over the U.S. patent to Davis in view of the U.S. patent to Nix.

Claims 3, 9 and 10 are rejected under 35 USC 103(a) over the U.S. patent to Davis in view of the patents to Nix and Stump.

Claims 4, 5 and 6 are rejected under 35 USC 103(a) over the U.S. patent to Davis in view of the patent to Mucciardi.

After carefully considering the Examiner's grounds for rejection of the claims over the art, applicants amended Claim 1, the broadest claim on file, and added another independent Claim 11.

It is respectfully submitted that Claims 1 and 11 define a method for determining the thickness of material by penetrating the material, which is not

disclosed in the references and cannot be derived from it as a matter of obviousness.

In accordance with applicant's invention, the thickness of the material is measured via at least two transit-time measurements of the measurement signal performed for various positions of the high-frequency transmitter and the high-frequency receiver operating in the same hand-held device.

When the method is performed in accordance with the present invention, it has the advantage that a single antenna is needed as a high-frequency transmitter and a single antenna is needed as a high-frequency receiver. The use of a high-frequency receiver with a plurality of antenna elements for receiving the measuring signal with different transit-times is not necessary in the method and device in accordance with the present invention, since the measuring system in accordance with the present invention varies its position.

In accordance with the inventive method for determining the thickness of material by penetrating the material, the material thickness  $d$  of a material is measured via at least two transit-time measurements of a high-frequency transmitter. In contrast to the device disclosed in the patent to Davis,

the transit-time measurement of the measuring signal is however performed for various positions of the high-frequency transmitter and/or high frequency receiver. The method and device in accordance with the present invention operates with one high-frequency transmitter and one high-frequency receiver. For a first position of the high-frequency transmitter (and/or the high-frequency receiver), a first transit time measurement is carried out. Thereby, the position of the high-frequency transmitter (and/or the high-frequency receiver) is changed, and a second transit-time measurement of the measuring signal is performed with the same high-frequency transmitter and the same high-frequency receiver. From these both transit-time measurements of the measuring signal, measured for different positions of the high-frequency transmitter (and/or the high-frequency receiver), the material thickness is determined.

Contrary to the applicant's invention the method disclosed in the patent to Davis operates on a constant location of the high-frequency transmitter and the high-frequency receiver. In the device disclosed in the patent to Davis, via a high-frequency transmitter, a measuring signal is introduced into the material to be investigated, and the signal reflected on different planes is measured via a plurality of high-frequency receivers, which form a liner "array". Via the different transit times of the signal supplied from the high-frequency transmitter to individual antennas of the high-frequency receiver, the material thickness  $d$  of the material is determined. Since the high-frequency receiver has

a plurality of receiving sensors, it is not necessary in the device disclosed in the patent to Davis to change the position of the high-frequency transmitter or the high-frequency receiver.

A method, in which the material thickness  $d$  of a material is measured from at least two transit-time measurements of the measuring signal for various positions of the high-frequency transmitter and/or the high-frequency receiver is not disclosed in the patent to Davis.

This feature is also not disclosed in the other references applied by the Examiner in combination with the patent to Davis.

The Examiner rejected the original claims over the patent to Davis as being anticipated under 35 USC 102(b). In connection with this, it is believed to be advisable to cite the decision *In Re Lindenman Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir 1984) in which it was stated:

“Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.”

Definitely, the patent to Davis does not disclose each and every element of the method and the device of the present invention as defined in

Claims 1 and 9. Therefore, it is respectfully submitted that the anticipation rejection applied by the Examiner should be considered as not tenable with respect to Claims 1 and 9 and should be withdrawn.

Also, the other references have been considered as well. They do not teach the new features of the present invention as defined in Claims 1 and 9 and neither the patent to Davis nor the secondary references contain any hint, suggestions or motivation for such features. In order to arrive at the applicant's invention from the patent to Davis taken singly or in combination with other references, it is necessary to modify the methods and devices disclosed in the references, in particular by including into them new features of the present invention as now defined in Claims 1 and 9. However, it is known that in order to arrive at a claimed invention, by modifying the references the cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals which, for example, held in its decision In Re Randol and Redford (165 USPQ 586) that:

Prior patents are references only for what they clearly disclose or suggest, it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest.

In view of the above presented remarks and amendments, it is believed that Claims 1 and 9 should be considered as patentably distinguishing over the art and should be allowed.

Claim 11 combines the features of Claims 1 and 2, and these features are also not disclosed in the references and could not be derived from them as a matter of obviousness. Claim 11 therefore should also be considered as patentably distinguishing over the art and should be allowed.

As for the dependent claims, these claims depend on Claim 1, they share its allowable features, and they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should

the Examiner feel that a personal discussion might be helpful in advancing this case to allowance; he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,

  
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